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USEPA SF



1208019



BUNKER HILL  
REMEDIAL DESIGN and REMEDIAL ACTION  
AREA I  
STATEMENT OF WORK

1.0 INTRODUCTION, DEFINITIONS, AND GENERAL PROVISIONS

1.1 Introduction

This Statement of Work ("SOW") details the on-site activities to be undertaken by the Settling Defendants in compliance with the requirements of this Consent Decree. The Work shall be consistent with the decisions set forth in the Bunker Hill 1992 Record of Decision ("1992 ROD") and the 1991 Residential Soils ROD ("1991 ROD") attached as Appendix A to the Consent Decree and performed pursuant to the Consent Decree.

The Work shall be structured to allow the most expeditious implementation of actions in a coordinated sequence that integrates remediation goals and minimizes short-term impacts and disruptions to the affected communities. The Work shall be organized in a series of Elements, described below, having individual Objectives and Performance Standards that recognize the various media and sub-area conditions at the site. The Elements of Work may be integrated, as appropriate, during remedial action to provide an efficient annual comprehensive schedule. The elements are further described in Draft or Final Remedial Design Reports (RDRs) which are attached to the Consent Decree. Only those portions of the individual elements which are scheduled to occur within Area I, as delineated on the Bunker Hill Superfund Site Allocation Map, attached as Attachment C to the Consent Decree (Allocation Map), are included in the Work.

In addition to the Elements of Work, an Institutional Controls Program (ICP) will be implemented as part of the remedy. The ICP-related responsibilities of the Settling Defendants are set forth in Attachment D of the Consent Decree. The ICP serves to maintain the long-term effectiveness of those remedial actions addressing the communities.

1.2 Definitions

Terms used in this SOW are as defined below or, as to others, by this Consent Decree, CERCLA and the NCP.

1.2.1 "Clean Soil" shall contain mean concentrations less than 100 ppm lead, 100 ppm arsenic and 5 ppm cadmium. No single sample shall exceed 150 ppm lead.

1.2.2 "High Risk Yards" means:

- Homes where children six years of age and under are in residence.
- Homes with pregnant women in residence.
- Licensed Day Care Centers.

- Homes where the most recent blood lead survey indicates that children in residence have a blood lead level equal to or greater than 10  $\mu\text{g}/\text{dl}$  and the Panhandle Health District (PHD) has determined that the yard soil exposure is a significant exposure pathway.

1.2.3 "Reasonably Segregable Areas" are defined as follows and include all remedial actions for each portion of a SOW Element of Work to be conducted within that area.

- The city of Pinehurst (including the Dalton Subdivision)
- The city of Smelterville (including 3 parcels of Asarco owned commercial property commonly known as the Old Lions Club Lease, Linfor Lumber, and Theater Pit).
- The city of Wardner
- The portion of the city of Kellogg located on the northern side of I-90
- The portion of the city of Kellogg located on the southern side of I-90
- The unincorporated community of Page
- The unincorporated residential areas of Elizabeth Park, Ross Ranch and Montgomery Gulch
- Page Pond

1.2.4 "Contaminated Soils" means those contaminated soils which are removed during remediation of Area I for disposal at the Page Pond Repository or other EPA-approved disposal site.

1.2.5 "Sensitive Populations" include children between 0 and 12 years of age and pregnant women.

### 1.3 General Provisions

1.3.1 The Work activities associated with this SOW are final remedial actions. Remedial actions outlined for Area I in this Statement of Work shall meet Performance Standards.

1.3.2 The Settling Defendants will begin performance of the Work as described in Section 5.0 of this document. Settling Defendants will not, however, be required to commence construction or sampling until this Consent Decree has been entered by the Court or unless such construction or sampling is otherwise ordered by the Court.

1.3.3 Each Element of Work, or a portion of an Element of Work shall be integrated and coordinated in a manner consistent with all other Elements of Work under this Consent Decree, and with all

other operations and/or tasks, including, but not limited to, emergency response activities.

- 1.3.4 Any repairs required to community infrastructure, such as roads and utilities, due to the implementation of the Work, shall be performed.
- 1.3.5 Repairs to private property shall be as specified in the Draft Residential Yards RDR.
- 1.3.6 Whenever Settling Defendants are obligated to perform an activity under this SOW, they may perform the activity themselves or engage a contractor (or contractors) accepted by EPA, unless other arrangements are mutually agreed upon, in fulfillment of their obligation.
- 1.3.7 During remedial construction activities, dust control measures shall be implemented to control the transport of contaminated material. Dust control activities shall include, but not be limited to, engineering and construction practices, the use of water to wet down areas or polymeric, chemical or physical surface sealers for temporary dust control.
- 1.3.8 Appropriate controls shall be used in Area I to prevent exposures during performance of the Work. Access controls shall include, but not be limited to, fencing and signs. Access control shall be maintained in all areas where it currently exists.
- 1.3.9 Appropriate controls shall also be applied in Area I, as necessary, to restrict access to potential source areas, to control transport of contaminants and to control exposures to contaminants of concern during construction activities.
- 1.3.10 The release of contaminants during remedial construction activities shall also be controlled. This shall include, but not be limited to, the management of runoff to minimize sediment transport to surface water. Storm water management during remedial implementation shall be consistent with all Federal, State and local requirements.
- 1.3.11 With respect to the Page Pond Element of Work, Best Management Practices shall be employed during remedial actions and the practice of not scheduling Work activities during high flow conditions shall be continued.
- 1.3.12 The objective of routine site maintenance is to ensure that facilities and control measures at the Site continue to be effective and achieve Performance Standards over the long term.
- 1.3.13 Work performed by Settling Defendants for the Page Pond Element of Work shall minimize operation and maintenance (O&M) requirements. A comprehensive post-closure O&M program will be defined during Remedial Action through preparation of a post-closure O&M Plan for the Page Pond Element of Work. It is the

expectation of the Parties that the ICP will accomplish the O&M requirements for the other portions of Area I.

- 1.3.14 In the event of any action or occurrence arising in connection with the performance of the Area I Work which causes or threatens a release of Waste Material at or from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, the Settling Defendants shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify the Project Coordinators for EPA and the State, or, if they are unavailable, their alternates. Where such a threat is identified, the Emergency Response provisions of the Consent Decree will apply. Where the EPA or State of Idaho project coordinator or designee makes a preliminary determination that substantial emergency property damage is threatened or has occurred due to remediation activities, the Settling Defendants will take action as required in the Draft Residential Yards RDR.
- 1.3.15 The Settling Defendants shall respond to conditions related to the Work identified by EPA as posing an immediate hazard within 24 hours of notice for the Page Pond Element of Work unless otherwise provided in the Consent Decree.

## 2.0 DESCRIPTION OF WORK TO BE PERFORMED, PERFORMANCE STANDARDS AND OBJECTIVES

This Section sets forth the Elements and Components of Work to be performed pursuant to this Consent Decree and states the Objectives and Performance Standards for the Work. These elements address that portion of the Work to be conducted by the Settling Defendants, within the Area I boundaries presented in the Allocation Map. The following Elements of Work are intended to provide a synopsis of the pertinent remedial actions that are explained in additional detail in the 1991 ROD and the 1992 ROD. The Draft or Final Remedial Design Reports, Attachments E through I to the Consent Decree, describe the Work in more detail.

A primary objective for remediation of the Site is the reduction of blood leads in the population; specifically, reduction in child blood lead concentrations so that 95% or more of the children tested in the blood lead survey have blood lead concentrations of less than 10  $\mu\text{g}/\text{dL}$  and less than one percent have blood lead concentrations greater than 15  $\mu\text{g}/\text{dL}$ . This objective as well as related objectives for environmental transport of site contaminants shall be addressed through a series of remedial actions for various subareas of the Site. The remedial actions described below, as well as those to be conducted by others, comprise a site-wide comprehensive remedy consisting of a combination of treatment, containment, engineering and institutional controls.

### 2.1 Page Pond Element of Work

The Page Pond Element of Work is described in the Draft Page Pond RDR. The Page Pond Element of Work includes the following two Components:

- Page Pond Component
- Humboldt and Grouse Creeks Component

#### 2.1.1 Page Pond Component

The objective of the Work is to limit releases from this source by consolidating, capping and revegetating.

2.1.1.1 Performance Standards for this Component of Work are as follows:

- 2.1.1.1.1 Portions of the exposed tailings located in shallow areas such as the West beach of the West Page Swamp area and the areas surrounding the decant lines, shall be removed, to the extent technically feasible, and subsequently placed on the Page Pond benches for use as a sub-base for a vegetated cover. To the extent that tailings in these and other shallow areas cannot be removed, the areas shall be covered with a minimum of 12 inches of clean soil and revegetated. All other areas shall be submerged under

approximately 2 feet of water. To the maximum extent practicable, these water levels shall be maintained throughout the year. The amount of material to be removed from shallow areas such as the West beach of the West Page Swamp and the areas surrounding the decant lines shall be determined during remedial design and shall consider the feasibility of effectively removing and relocating tailings deposits, including tailings moisture content and texture, current vegetated status, surficial soil contaminant concentrations, water levels, and habitat. The design shall be subject to EPA approval.

- 2.1.1.1.2 Page Pond benches shall be covered with a minimum of six inches of Contaminated Soils, regraded to promote runoff, and revegetated.
- 2.1.1.1.3 Page Pond impoundment dikes shall be regraded to provide slope stability and then revegetated after placement of a minimum of six inches of Clean Soil. Contaminated Soil may be used providing access is adequately controlled, as determined by EPA.
- 2.1.1.1.4 Adequate controls shall be provided to prevent public access to the remedial actions performed at Page Pond.
- 2.1.1.1.5 Wetlands associated with the Page Pond areas shall be monitored for sediment and water quality. Water quality sampling will occur twice annually at two inflow and two outflow points for the year prior to and the five years following remediation. Sediment sampling will be consistent with the 1993 transect sampling program and will occur immediately after remediation and again at five years after remediation. Water and sediment sampling requirements are presented in the Draft Page Pond RDR.
- 2.1.1.1.6 Biomonitoring shall be conducted at the Page Pond Swamps in the year prior to remediation and for the next five years after remediation. The monitoring shall consist of bird surveys and mammal tissue sampling. Biomonitoring requirements, including provisions for long-term monitoring, are presented in the Draft Page Pond RDR.

## 2.1.2 Humboldt and Grouse Creeks Component

The objective of this Component is to limit the contamination of these surface streams by preventing contact with Page Pond area tailings. Only those portions of Humboldt and Grouse Creeks within Area I boundaries, as delineated by the Allocation Map, are addressed by this Component.

### 2.1.2.1 Performance Standards for this Component of Work are as follows:

2.1.2.1.1 Humboldt and Grouse Creeks shall be isolated, to the degree practicable, from contact with tailings accumulations by the use of diversions and stream channel modifications in the existing channels north and south of the Page Pond Impoundment. Outlet control weirs shall be constructed to maintain consistent water levels in the East and West Page Swamps to the degree practicable.

2.1.2.1.2 Final configuration of any channel modifications shall take into account habitat considerations. The design shall be subject to EPA approval.

## 2.2 Rights-of-Way (ROW) Element of Work

The Rights-of-Way Element of Work is described in the Final ROW RDR. Only ROW within Area I boundaries as delineated by the Allocation Map are addressed by this Element of Work.

2.2.1 The objectives of the Work are to control direct contact risk and migration of contaminants originating from ROW through air and water.

### 2.2.1.1 Performance Standards for this Element of Work are as follows:

2.2.1.1.1 Rights-of-Way include state, county, local and private roads.

2.2.1.1.2 All ROW with lead concentrations of 1,000 ppm or greater in the top six or twelve inches of soil shall receive, upon EPA approval, one or more of the following treatments: revegetation, barrier placement, removal/replacement and/or access control, dependent upon geographic location and current land use. Barrier type and thickness will also be determined based on geographic location and current land use.



- 2.2.1.1.3 ROW adjacent to residential properties will be sampled at the 0- to 1-, 1- to 6-, 6- to 12-, and 12- to 18-inch intervals. ROW located within Area I, as described by the Site Allocation Map, but not adjacent to residential properties will be sampled at the 0- to 1-, 1- to 6-, and 6- to 12-inch intervals. Sample collection and analysis will be conducted consistent with Appendix B of the Draft Residential Yards RDR.
- 2.2.1.1.4 ROW where access is restricted and where vegetative cover is 85% or greater require no additional remedial action. If access is restricted and vegetative cover is less than 85%, direct revegetation will occur.
- 2.2.1.1.5 Where barriers are utilized, the barriers shall have sufficient durability to minimize future operation and maintenance requirements.
- 2.2.1.1.6 Within residential areas, ROW adjacent to residential properties shall be treated utilizing methods presented in the Draft Residential Yards RDR. These methods will result in a minimum 12-inch protective barrier over soils with lead concentrations of 1,000 ppm or more.
- 2.2.1.1.7 ROW in non-residential settings shall be remediated in a manner consistent with the adjacent properties and usage. These properties, if not access-restricted, shall receive a minimum of a 6-inch protective barrier.
- 2.2.1.1.8 Excavated soils shall be consolidated in the Page Pond Repository or other EPA-approved area.
- 2.2.1.1.9 The exact nature of each ROW remediation shall be determined on a case-by-case basis through the process outlined in the Draft ROW RDR.

## 2.3 Commercial Properties Element of Work

The Commercial Properties Element of Work is described in the Final Commercial Properties RDR. Only commercial properties within Area I boundaries as delineated by the Allocation Map are addressed by this Element of Work.

2.3.1 The objectives of the Work are to control direct contact risk and the migration of contaminants originating from commercial properties.

2.3.1.1 Performance Standards for this Element of Work are as follows:

2.3.1.1.1 For commercial properties located within Area I, as defined by the Site Allocation Map, surface soils with a lead concentration of 1,000 ppm or greater in the top six or twelve inches must receive a protective barrier. Sampling depth and resultant barrier thickness will be dependent on type of land use. Barriers shall consist of a minimum of six inches of clean soils and revegetation, six inches of gravel, or a paved surface consistent with land use.

2.3.1.1.2 Barriers installed for commercial properties used predominantly by sensitive populations, or commercial properties with unrestricted access from adjacent residential property, shall meet the requirements of the Draft Residential Yards RDR, or be consistent with the setting and acceptable to EPA.

2.3.1.1.3 Commercial properties with lead concentrations of 1,000 ppm or greater in the 12- to 18-inch interval used predominantly by sensitive populations or with unrestricted access from adjacent residential properties and with a high probability of disturbance shall receive a visual marker prior to placement of the 12-inch barrier.

2.3.1.1.4 Commercial properties not predominantly used by sensitive populations or those with restricted access from adjacent residential properties will be sampled at the 0- to 1-, 1- to 6-, and 6- to 12-inch intervals for determination of the lead concentration. All other commercial properties within Area I shall be sampled consistent with the Final Residential Yards RDR. Sample collection and analysis will be conducted consistent with Appendix B of the Draft Residential Yards RDR.

2.3.1.1.5 Excavated soils shall be consolidated within the Page Pond Repository or other EPA-approved areas.

2.3.1.1.6 Remediation of the Kellogg High School practice field, identified separately on the Allocation Map, shall include soil and sod removal and replacement for concentrations exceeding 1,000 ppm lead, up to a maximum removal depth of 6 inches. Removal depths will be based upon the results of the sampling program defined specifically for the practice fields in the Draft Commercial Properties RDR.

2.3.1.1.7 The exact nature of each commercial property remediation shall be determined on a case-by-case basis through the process outlined in the Draft Commercial Properties RDR.

## 2.4 Water Well Closure Element of Work

The Water Well Closure Element of Work is described in the Final Water Well Closure RDR. Only Water Well Closure within Area I boundaries as delineated by the Allocation Map is addressed in this Element of Work.

2.4.1 The objective of the Work is to assure adequate supplies of water and to minimize exposure to on-site surface and ground waters by reducing the potential for human ingestion and/or contact with contaminated ground water; reducing the potential for ground-water contamination from surface sources; and reducing the number of potential vertical conduits for contaminant migration in ground water.

2.4.1.1 Performance Standards for this Element of Work are as follows:

2.4.1.1.1 All ground-water wells within Area I that are in the main valley aquifer, either upper zone, lower zone, or other contaminated wells (exceeding federally promulgated drinking water standards for total arsenic, cadmium, lead, and zinc) within Area I shall be closed or abandoned according to the Final Water Well Closure RDR and State of Idaho requirements (Idaho Department of Water Resources, 1989).

2.4.1.1.2 Residences in Area I serviced by a well selected for closure, which are not already serviced by a municipal water system, will be attached to the system.

## 2.5 Institutional Controls Program (ICP)

The Settling Defendants' obligations are described in Attachment D of the Consent Decree.

## 2.6 Residential Yards Element of Work

The Residential Yards Element of Work is defined in the Final Residential Yards RDR.

2.6.1 The objective of the Work is to control direct contact risk by creating average soil lead concentrations in each Reasonably Segregable Area that are protective of public health, and to control contaminant migration through air and water.

2.6.1.1 Performance Standards for this Element of Work are as follows:

2.6.1.1.1 All residential properties shall be sampled at the 0- to 1-, 1- to 6-, 6- to 12- and 12- to 18-inch intervals for determination of the 1,000 ppm lead threshold concentration. Sampling and analysis shall be conducted according to Appendix B of the Final Residential Yards RDR.

2.6.1.1.2 Soil samples were collected from a geographic distribution of residential properties in the Bauman Subdivision (as delineated on the Allocation Map). Analysis results from the properties sampled were below the 1,000 ppm action level. Therefore, yards in Bauman Subdivision will not require sampling or remediation.

2.6.1.1.3 Based on the results of the yard soil sampling, for those residential yards that exceed the 1,000 ppm lead action level, the extent of remediation will be determined as follows:

## Extent of Remediation (2.6.1.1.3)

If Interval Equals or Exceeds Action Level		If Interval Less than Action Level		Remediation Depth
0 - 1"	AND	1 - 6", 6 - 12"	THEN	6"
1 - 6"		0 - 1", 6 - 12"		6"
6 - 12"		0 - 1", 1 - 6"		12"
12 - 18"		0 - 1", 1 - 6", 6 - 12"		NO REMEDIATION
0 - 1", 1 - 6"		6 - 12"		6"
0 - 1", 6 - 12"		1 - 6"		12"
1 - 6", 6 - 12"		0 - 1"		12"
NONE		0 - 1", 1 - 6", 6 - 12"		NO REMEDIATION

- 2.6.1.1.4 All produce garden areas in remediated yards will receive 24 inches of clean soil. A maximum of 11 cubic yards of clean soil for produce gardens will be delivered to residents whose yards do not require remediation. The soil will be made available on a Reasonably Segregable Area basis during the period from initiation of construction activities within that Reasonably Segregable Area through certification. Procedures for residents requesting clean soil are presented in the Final Residential Yards RDR.
- 2.6.1.1.5 The exact nature of each yard remediation shall be determined on a case-by-case basis through the process outlined in the Final Residential Yards RDR.
- 2.6.1.1.6 In all 12-inch removals, if the 12- to 18-inch sample exceeds 1,000 ppm lead, a visible marker, such as an erosion control fabric, shall be placed prior to backfilling with clean soil.
- 2.6.1.1.7 After replacement with clean fill, yards shall be revegetated with sod. Improved contiguous hillside areas not currently serving as lawns shall be revegetated with native grasses.

- 2.6.1.1.8 Removed Contaminated Soils shall be disposed of at the Page Pond Repository or other EPA-approved area.
- 2.6.1.1.9 Remediated areas where EPA determines that revegetation is not necessary may receive clean gravel instead of soil.
- 2.6.1.1.10 Remediation of residential areas shall occur as scheduled on an annual basis. Upon completion of a Reasonably Segregable Area the average residential soil lead concentration shall be calculated following the procedure described in the Final Residential Yards RDR. If the average is 350 ppm lead, or greater, additional yards shall be remediated until the mean for the Reasonably Segregable Area is calculated to be below the 350 ppm criterion.

### 3.0 DESCRIPTION OF PLANS AND REPORTS

The following list, which identifies plans and reports which may be submitted during the RD/RA for the Work, reflects the current status of the project and unique aspects of the Bunker Hill Site. Considerable progress has already been made on the RD process. A series of Draft or Final Remedial Design Reports (RDRs), which address in detail the remediation requirements set forth in this Statement of Work are attached to the Consent Decree. Because of the diverse nature of the RDRs, each document individually addresses many of the Components and information requirements set forth in RD/RA guidance. In addition, specific planning and reporting requirements have been developed which correspond to the RDRs and further information to be generated in the RD/RA Process.

This Section is intended to provide a framework for developing plans and reports for the Work, and is not intended to be a prescriptive explanation of their content. Other information and requirements may be prescribed by EPA or the State through the review of the deliverables and other documents prepared by the Settling Defendants under this Consent Decree. Unless otherwise specified, the description is not meant to distinguish between draft and final versions of the documents.

#### 3.1 Listing of Plans and Reports

The following is a list of the plans and reports described in this Section. Upon EPA's request any of these may be submitted in electronic form. This Section then sets forth a description of the types of information that should be included in the listed plans and reports.

- General Project Management
  - Project Management Monthly Reports
  - Technical Memoranda
- Remedial Design
  - Draft Remedial Design Reports
  - Final Remedial Design Reports
- Remedial Action
  - Remedial Action Work Plans
  - Health and Safety Plan
  - Construction Completion Reports
  - Completion of Remedial Action Certification Reports
  - Completion of the Work Reports

- Page Pond Post-Closure Operations and Maintenance (O&M) Plan
- Page Pond Annual Monitoring Report

### 3.2 General Project Management

#### 3.2.1 Project Management Monthly Reports

The Project Management Monthly Reports shall be a consolidated status report on all Work. The Reports shall be divided into separate sections providing the status of the individual Elements and Components of Work under this SOW. The Reports shall include, but are not limited to, the following basic information:

- Introduction, including the purpose and general description of the Work currently being conducted.
- Activities/tasks undertaken during the reporting period, and expected to be undertaken during the next reporting period.
- Deliverables and milestones completed during the reporting period, and expected to be completed during the next reporting period.
- Identification of issues and actions that have been or are being taken to resolve the issues.
- Status of the overall project schedules and any proposed schedule changes.

#### 3.2.2 Technical Memoranda

The Technical Memoranda are the mechanism for requesting modification of plans, designs, and schedules. Technical memoranda are not required for non-material field changes that have been approved by EPA. In the event that Settling Defendants determine that modification of an approved plan, design, or schedule is necessary, Settling Defendants shall submit a written request for the modification to the EPA Project Coordinator which includes, but is not limited to, the following information:

- General description of and purpose for the modification.
- Justification, including any calculations, for the modification.
- Actions to be taken to implement the modification, including any actions related to subsidiary documents, milestone events, or activities affected by the modification.
- Recommendations.



### 3.3 Remedial Design

#### 3.3.1 Draft Remedial Design Reports

Draft Remedial Design Reports (Draft RDRs) have been prepared for each Element of Work to further define the scope of the Remedial Actions required by the Records of Decision (RODs) for the Bunker Hill Superfund Site issued in August of 1991, and September of 1992. The Draft RDRs have been finalized for the Residential Yards, ROW, Water Well Closure, and Commercial Properties Elements of Work. The Draft Page Pond RDR provides the approved conceptual design for the Page Pond Element of Work and presents the objectives and Performance Standards to be applied and design considerations suggested by recent field investigations. The Final Page Pond RDR will be based upon the approved conceptual designs presented in the Draft RDR.

#### 3.3.2 Final Remedial Design Reports

The Final Page Pond RDR shall be a continuation and expansion of the FS, associated technical memoranda, and Draft RDR. The Final RDR represents the 100% design final plans and specifications, and shall include the basic information described for the Draft RDR in addition to incorporating any changes necessary that arise from EPA's comments and modifications. The Final Page Pond RDR shall include the following:

- Design drawings.
- Design specifications.
- Design calculations.
- Design quality assurance considerations.
- General design concept and criteria of facilities to be constructed.
- Description of existing facilities and identification of any that will be altered, destroyed, or abandoned during construction.
- Description of off-site facilities required or affected.
- Analysis/discussion of Performance Standards and how they have been incorporated into the design.
- Design parameters dictated by the Performance Standards.

### 3.4 Remedial Action

#### 3.4.1 Remedial Action Work Plans

The Remedial Action Work Plans shall provide for the construction of the remedy, in accordance with the SOW, as set forth in the

design plans and specifications in any approved final design submittals required by the RDRs. The Remedial Action Work Plans shall be the primary plans to control and guide the construction of the Elements or Components of Work performed by the Settling Defendants under this Consent Decree.

- A Residential Areas Annual Remedial Action Work Plan addressing all Residential Areas Elements of Work shall be submitted annually as described in Section V of the SOW. Such work plans shall address the proposed remediation activities for Residential Yards, Water Well Closure, ROW, and Commercial Properties Elements of Work, to be completed within the boundaries of Area I during a construction season. An annual work plan may address all or a portion of one or more Reasonably Segregable Areas. A Page Pond Remedial Action Work Plan addressing the Page Pond Element of Work shall be submitted as described in Section V of the SOW. The Remedial Action Work Plans shall include, but are not limited to, the following:
  - An overall description of the work to be performed with cross-references to other documents, if any, containing more specific details.
  - The technical approach for undertaking, monitoring, and completing the Element or Component of Work. The discussion should include a description of the procedures, specific activities and objectives of such activities, and facilities to be installed; the Performance Standards; identification of and plans for obtaining any necessary off-site access, permits, or approvals; and identification of and plans for any materials requiring disposal.
  - A description of the deliverables and milestones.
  - A construction schedule.
  - Sampling and analysis requirements, including field verification programs.
    - Sampling rationale and data quality objectives.
    - Sampling locations and frequency.
    - Sampling equipment and sampling, preservation, preparation and cleaning procedures.
    - Sampling chain of custody procedures.
    - Analytical methods and procedures.
  - Construction O&M requirements.

- Plan for integrating, coordinating, and communicating with EPA, IDHW, and other government officials.
- Quality assurance measures including:
  - Audits.
  - Routine procedures, including internal quality control checks.
  - Corrective action procedures.
  - Construction-related QA/QC.
- Additional health and safety measures.
- QA/QC measures shall be in accordance with EPA guidance, including "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans", December 1980, (QAMS-005/80); "Data Quality Objective Guidance", (EPA/540/G87/003 and 004); and appropriate EPA Region 10 guidance.

#### 3.4.2 Health and Safety Plan

A Remedial Action Health and Safety Plan shall establish health, safety, and emergency response procedures for field activities associated with the construction of each Element or Component of Work to be performed by the Settling Defendants. The Plan shall conform to applicable or appropriate Occupational Safety and Health Administration (OSHA) regulations, requirements, and guidance. This Health and Safety Plan shall comprehensively address all construction work in Area I of the Site. Specific Health and Safety issues pertinent to a single Element of Work shall be further addressed in that Remedial Action Work Plan. In that manner the comprehensive Health and Safety Plan shall be supplemented by the Residential Areas Annual Remedial Action Work Plans and the Page Pond Remedial Action Work Plan. The Plan, in conjunction with the above-referenced Remedial Action Work Plan, shall include, but is not limited to, the following basic information:

- Overall description of the Plan, including purpose and a general description of the Elements or Components of Work covered by the Plan.
- Emergency and post-emergency procedures, including the designation of the Settling Defendants' emergency response coordinator.
- Standard job site health and safety considerations and procedures, including hazards evaluation and chemicals of concern.

- Communication and notification procedures within the Settling Defendants' organization, and with EPA, State, other government officials, and community members.
- Personal Protection Equipment and instructions/procedures to ensure personnel protection and safety.
- Monitoring plans.
- Medical surveillance programs and training.
- Recordkeeping and reporting procedures.

#### 3.4.3 Construction Completion Reports

The Construction Completion Reports certify the completion of construction of a particular Element or Component of Work. In the case of residential areas, a Construction Completion Report will be prepared annually. These reports will provide evaluations of completion of Work relative to the scope outlined in a Residential Areas Annual Remedial Action Work Plan. The Reports shall include, but are not limited to, the following:

- Overall description of the Report, including purpose and a general description of the Element(s) or Component(s) of Work covered by the Report.
- Overall description of the constructed Element(s) or Component(s) of Work and all associated facilities, appurtenances, and piping.
- Well Closure Records signed by the Settling Defendants' project coordinator or designated representative and records indicating that the work was performed by a well driller licensed in the State of Idaho.
- As-built plans or plot plans and specifications including:
  - Construction QA/QC records.
  - Summary of any modifications implemented by Technical Memoranda.
- An Idaho-registered Professional Engineer must sign and stamp as-built plans for the Page Pond Element of Work. As-built plans (plot plans) for the Remedial Actions in residential areas must be signed by the Settling Defendants' Project Coordinator, following the procedure outlined in Appendix E of the Final Residential Yards RDR.

#### 3.4.4 Completion of Remedial Action Certification Reports

The Completion of Remedial Action Certification Reports shall be submitted upon completion of all Elements of Work within a Reasonably Segregable Area and achievement of Performance

Standards. These reports shall serve as the Settling Defendants' documentation supporting completion of the remedial actions and achievement of the Performance Standards within a Reasonably Segregable Area and to request certification from EPA for approval, with a copy to the State, pursuant to Section XV of the Consent Decree. The Reports shall include, but are not limited to, the following information:

- Overall description of the Report, including purpose and a general description of the Reasonably Segregable Area including the Elements or Components of Work covered by the Report. The general description of the Reasonably Segregable Area shall include a description of the Work that was undertaken, objectives, period of operation, and Performance Standards.
- Findings and results of the pre-certification inspection, including documentation supporting that the Performance Standards, as appropriate, have been met.
- Contingency plans in the event Performance Standards are not achieved.
- Cross-references to the Construction Completion Report(s), which presents as-built drawings, corresponding to the Elements or Components of Work addressed by the Completion of Remedial Action Certification Report.
- Demonstration that all obligations for a Reasonably Segregable Area under this SOW and Consent Decree have been satisfactorily completed or achieved by the Settling Defendants in accordance with the Consent Decree.
- A statement by the Settling Defendants' Project Coordinator that Remedial Action has been completed in full satisfaction of the requirements of the Consent Decree.
- For residential areas, the following statement by an Idaho-registered Professional Engineer:

*It is hereby certified that the thickness of the soil barrier layers constructed and the existence of a visual barrier in the designated residential yards, commercial properties, and rights-of-way within a Reasonably Segregable Area of the Site known as \_\_\_\_\_, represented by the inspection reports and sampling data included in the 'Residential Area Remediation Assessment and Certification' forms for the respective properties, is in full satisfaction of the Performance Standards for barrier thickness and placement of a visual barrier, as presented in the Bunker Hill Superfund Site*

*Area I SOW and the Final Residential Yards,  
Commercial Properties and Rights-of-Way RDRs.*

- For residential areas, the following statement by an Idaho-registered Professional Engineer, or an Idaho-registered Professional Geologist:

*It is hereby certified that well closures, conducted within a Reasonably Segregable Area of the site known as \_\_\_\_\_, represented by the Well Closure Records and supporting information presented in the Construction Completion Reports, are in full satisfaction of the Performance Standards for well closure presented in the Bunker Hill Superfund Site Area I SOW and the Final Water Well Closure RDR.*

- For Page Pond, a statement by an Idaho-registered Professional Engineer that the Remedial Action at Page Pond is in full satisfaction of the requirements of the Consent Decree.

3.4.5 Completion of the Work Report

This report shall be submitted after all phases of the Work (including any O&M obligations required by the Consent Decree) have been completed in full satisfaction of the requirements of this Consent Decree. Requirements of this report are set forth in Paragraph 52 of the Consent Decree. The Report shall comprehensively present the certifications by the Professional Engineer and Project Coordinator previously required for each Reasonably Segregable Area in the individual Completion of Remedial Action Certification Reports. Subsequent actions of the Settling Defendants, such as O&M requirements at Page Pond, and the current status of the various Reasonably Segregable Areas will be evaluated. If, after review, the Settling Defendants believe that the Work has been completed in full satisfaction of the Consent Decree, the report shall be submitted containing the following statement, signed by a responsible corporate official of the Settling Defendants or the Settling Defendants' Project Coordinator:

*To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

3.4.6 Page Pond Post-Closure Operation and Maintenance (O&M) Plan

A plan addressing long-term operation and maintenance requirements for all aspects of Page Pond shall be prepared. This document shall reflect the specific post-remediation activities required to maintain remedy effectiveness at Page Pond and shall include, but not be limited to:

- Operational procedures.
- Operational emergency response.
- Maintenance procedures and schedules.
- Monitoring procedures and schedules.
- Parts and equipment inventory.
- Compliance plan that describes the procedures to be used to guide the compliance testing activities and acceptance procedures for demonstrating compliance with the objectives and Performance Standards associated with the particular Element or Component of Work.
- Biomonitoring (long term).

3.4.7 Page Pond Annual Monitoring Report

A report presenting the results of ongoing monitoring activities at Page Pond will be prepared annually, as specified in the Draft Page Pond RDR. The annual reports shall include, but are not limited to the following:

- Results of sediment and water quality monitoring conducted as specified in the Draft Page Pond RDR.
- Results of biomonitoring conducted as specified in the Draft Page Pond RDR.
- A brief evaluation of the current year's data relative to historical data and biomonitoring data from similar areas in the region.

#### 4.0 DELIVERABLES

This section presents listings of deliverables associated with the Work. Two sets of deliverables will be developed for Work conducted after completion of the remedial design; one set will apply to remedial action at Page Pond, and the other set will apply to remedial action for Residential Areas. Residential Areas shall consist of the following Elements of Work occurring within Area I boundaries as delineated by the Allocation Map: Rights-of-Way, Commercial Properties, Residential Yards, and Water Well Closure.

##### 4.1 Remedial Design

The following separate deliverables, for the corresponding Elements of Work, apply to Work conducted through completion of the remedial design:

- Draft Residential Yards RDR
  - Final Remedial Design Report (Attachment E to Consent Decree)
- Draft Page Pond RDR
  - Draft Remedial Design Report (Attachment F to Consent Decree)
  - Final Remedial Design Report
- Draft Rights-of-Way RDR
  - Final Remedial Design Report (Attachment G to Consent Decree)
- Draft Commercial Properties RDR
  - Final Remedial Design Report (Attachment H to Consent Decree)
- Draft Water Well Closure RDR
  - Final Remedial Design Report (Attachment I to Consent Decree)

##### 4.2 Remedial Action

###### 4.2.1 Page Pond

For the Page Pond Element of Work, the following deliverables will be required after completion of the remedial design phase:

- Draft Remedial Action Work Plan
- Final Remedial Action Work Plan
- Monthly Progress Reports
- Construction Completion Report
- Completion of Remedial Action Certification Report
- Post Closure O&M Plan
- Page Pond Annual Monitoring Report



#### 4.2.2 Residential Areas

For the Residential Areas, a Residential Areas Annual Remedial Action Work Plan will be submitted. This Work Plan shall address the Residential Yards, Rights-of-Way, Commercial Properties, and Water Well Closures for a given geographic area. The Work Plan and other subsequent deliverables are listed below.

- Draft Residential Areas Annual Remedial Action Work Plan
- Final Residential Areas Annual Remedial Action Work Plan
- Monthly Progress Reports
- Construction Completion Reports (annually including Plot Plans)
- Completion of Remedial Action Certification Report (per Reasonably Segregable Area)

#### 4.3 Health and Safety Plan

In addition to the above reports a comprehensive Health and Safety Plan is also recognized as a deliverable for Area I Elements of Work. Details regarding sampling and analysis will be included as part of the Remedial Action Work Plans.

#### 4.4 Completion of Work Report

A Completion of Work Report will also ultimately be prepared.

## 5.0 OVERALL PROJECT SCHEDULE

The Overall Project Schedule provides:

- a master schedule for all significant milestone events and activities; and
- a list of all deliverables for all Elements or Components of Work specified below and a master schedule for the production of these deliverables.

Individual schedules for completion of remedial actions for Residential Areas and Page Pond are provided.

### 5.1 Residential Areas

The approach for remediation of residential areas is the completion of all Residential Yards, ROW, Commercial Properties, and Water Well Closures within a given Reasonably Segregable Area. The controlling factor for the timing of the certification of a Reasonably Segregable Area is the number of Residential Yards requiring remediation. This number includes all yards sampled which equal or exceed the 1,000 ppm lead threshold and any additional yards requiring remediation in order to attain the 350 ppm average for yards in each Reasonably Segregable Area. At this time, the sampling required to determine the total number of yards requiring remediation has not been conducted. For this reason, a precise comprehensive schedule for completion of residential areas cannot be developed. Instead, the rate of remediation and duration for completion of Work will be based upon the process described below.

During the first and second construction seasons, a minimum of 130 (first season) and 200 yards (second season), will be remediated. Following the conclusion of the second construction season, representatives from EPA, the State, and the Settling Defendants will meet to reassess the minimum number of yards to be remediated during each remaining construction season. If no consensus is reached, the minimum will remain at 200. This reassessment will take into account the impact of the remediation on the communities.

Prior to each upcoming construction season, EPA, in consultation with the State, may, until April 1 of each year, add the yards of homes meeting the "high risk" criteria (as outlined in Section 1.2.2 of this SOW) to the list of yards to be remediated provided in the Residential Areas Annual Remedial Action Work Plan. EPA, in consultation with the State, may then add an additional 30 yards until September 15th. To help facilitate efficient scheduling of remediation activities, the Settling Defendants will be notified as soon as a high risk yard has been identified. EPA and the State will make best efforts to identify all high risk yards prior to September 1st. Yards added as part of the "high risk" program shall count toward the attainment of the annual minimum number criteria specified above.

A Draft Residential Areas Annual Remedial Action Work Plan shall be produced for EPA review/approval on or before April 15 of each year. EPA comments on the Draft Work Plan will be provided by May 15 of each year.

to allow revision of the Draft Work Plan prior to June 15 of each year. Each year's Work shall be initiated by June 15, if weather conditions allow, and shall be completed by December 31 or earlier. The attached Remedial Action General Activity Schedule reflects the planned sequence and general rate of remediation based upon the defined Reasonably Segregable Areas and assumptions as to the number of yards requiring remediation within a Reasonably Segregable Area. The actual total number of yards remediated shall be dependent upon sampling results, the annual number of high risk yards, and permission to access yards.

Given this approach, the controlling deliverable for this aspect of the Work will be the Draft Residential Areas Annual Remedial Action Work Plan. This document will serve as the controlling activity for the critical path analysis for Work in the Residential Areas. The attached Residential Areas - Remedial Action Sequence and General Schedule provides a basis for scheduling of subsequent activities and reports. The anticipated overall schedule for Area I remediation is provided in the Remedial Actions General Activity Schedule (attached).

## 5.2 Page Pond

The attached Page Pond - Remedial Action Sequence and General Schedule provides a basis for scheduling and subsequent deliverables/milestones. The controlling activities are the finalization of the Final Page Pond RDR and the Page Pond Remedial Action Work Plan. A Draft Final Page Pond RDR will be submitted by September 1, 1994. A Draft Page Pond Remedial Action Work Plan will be produced by March 1, 1995. A construction schedule will be provided in the EPA-approved Final Page Pond RDR. A Construction Completion Report will be provided within 60 days of completion of the Page Pond remedial activities, and a Pre-Certification Inspection will be conducted within 90 days of concluding that the applicable Performance Standards have been attained. The Completion of Remedial Action Certification Report for Page Pond will be submitted within 30 days of the Pre-Certification Inspection.

## 5.3 Initial Planning Efforts

The Settling Defendants will begin work on preparation of the following deliverables at the time of lodging of the Consent Decree, in accordance with the schedule set forth in this SOW:

- Monthly Progress Reports
- Technical Memoranda (as needed)
- Final Page Pond Remedial Design Report
- Residential Areas Annual Remedial Action Work Plan
- Page Pond Remedial Action Work Plan
- Health and Safety Plan (as needed).

Work shall proceed on these deliverables in order to prepare for future sampling and construction activities in accordance with the attached

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schedule. However, sampling and construction activities will only commence after the Consent Decree has been entered by the Court, unless such construction or sampling is otherwise ordered by the Court.

## Residential Areas - Remedial Action Sequence and General Schedule

TASK	DEADLINE
• Monthly Progress Reports (comprehensive reports for all Area I Work)	tenth day of each month following the reporting period.
• Draft Residential Areas Annual Remedial Action Work Plan	April 15
• EPA and State comments on the Draft Residential Areas Annual Remediation Action Work Plan	May 15
• Final Residential Areas Annual Remedial Action Work Plan	June 15
• Initiation of Remedial Action	June 15
• Completion of Construction Season	December 31 or earlier
• Construction Completion Report (annually)	60 days after completion of Construction Season
• Pre-Certification Inspection for completion of Remedial Action Certification Report	within 90 days of concluding that Performance Standards have been attained for a Reasonably Segregable Area
• Completion of a Remedial Action Certification Report (after concluding that work has been completed for a Reasonably Segregable Area)	within 30 days of the Pre-Certification Inspection
• Pre-Certification Inspection for Completion of Work Report.	within 90 days of concluding that all work has been completed for Area I
• Completion of Work Report	within 30 days of Pre- Certification Inspection (both the Residential Areas and Page Pond will be addressed in a single report)

## Page Pond - Remedial Action Sequence and General Schedule

TASK	DEADLINE
● Monthly Progress Reports (comprehensive reports for all Area I Work)	tenth day of each month following the reporting period
● Draft Final Page Pond RDR	September 1, 1994
● Draft Page Pond Remedial Action Work Plan	March 1, 1995
● Construction Completion Report	60 days after completion of Construction
● Pre-Certification Inspection for Completion of Remedial Action Certification Report	within 90 days of concluding that Performance Standards have been attained for the Page Pond Element of Work
● Completion of Remedial Action Certification Report	within 30 days of Pre-Certification Inspection
● Page Pond Annual Monitoring Program	90 days after conclusion of the sampling season
● Pre-Certification Inspection for Completion of Work Report	within 90 days of concluding that all Work has been completed for Area I
● Completion of Work Report	within 30 days of Pre-Certification Inspection (both the Residential Areas and Page Pond will be addressed in a single report)

Bunker Hill Superfund Site

Area I

Draft Remedial Action General Activity Schedule

	1994	1995	1996	1997	1998	1999	2000	2001
Residential Yards:								
Kellogg								
Smelterville								
Pinehurst								
Wardner								
Page								
Elizabeth Park								
High Risk								
Water Well Closure within Area I:								
Domestic								
Commercial and Monitoring								
Other Areas:								
Commercial Properties within Area I								
Page Pond and Swamps								
ASARCO Commercial Properties								
Rights-of-Way within Area I								